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## Sean Lawlor

### Education

- Doctorate of Electrical Engineering, 2017:** [McGill University] [Montreal, Quebec]  
Member of the Telecommunication and Signal Processing Laboratory, Computer Networking group.  
Thesis Title: Traffic Estimation and Detection Methods Utilizing Automatic Vehicle Identification Data  
Advisor: Professor Michael Rabbat
- Masters of Electrical Engineering, 2013:** [McGill University] [Montreal, Quebec]  
Member of the Telecommunication and Signal Processing Laboratory, Computer Networking group.  
Thesis Title: Detecting convoys in networks of short-range sensors  
Advisor: Professor Michael Rabbat
- Bachelor of Computer Engineering, 2011:** [McGill University] [Montreal, Quebec]  
Graduated with a specialization in Telecommunication and Computer Networking.

### Employment

- Data Scientist:** [Genetec Inc] [Montreal, QC] [December 2015 – Present]  
Chief data scientist and business intelligence specialist working on prototyping the data science problems which occur in Genetec's Security Center platform to create new product lines. This team follows Genetec's "Cloud First" policies of creating SaaS offerings over pure on-premise solutions.
- Research Engineer:** [Genetec Inc] [Montreal, QC] [May 2012-December 2015]  
Working with Genetec on F# Development for highly-available, distributed systems utilizing datasets and algorithms utilized in my Master's and PhD theses
- Course Lecturer:** [McGill University] [Montreal, QC] [Jan 2014-May 2014]  
In the Winter 2014 semester I was the assigned course lecturer for ECSE 489 – Telecommunication and Network Laboratory when there was no available professor to teach the class.
- Software Engineering Intern:** [Genetec Inc] [Montreal, QC] [Summer 2011]  
Hired to work in the Functional Development team for distributed systems working on new projects within Genetec. Specialized in F# in the Microsoft .NET 3.5/4.0 environment.
- System Developer:** [McGill University, Centre for Intelligent Machines] [Montreal, QC] [Summer 2010]  
Contracted to build real-time publish/subscribe system for Geoid PIV-17, a 3-Dimensional Surveillance Networks project under Professor Frank Ferrie. Also constructed an OpenGL rendering system for the data produced in the project.
- Teaching Assistant:** [McGill U., Dept of ECSE] [Montreal, QC] [January 2009 – May 2015]

Hired as an undergraduate teaching assistant into a graduate teaching assistant in following semesterly breakdown:

- 1.) Winter 2009 – ECSE 211 – Design Principles and Methods
- 2.) Winter 2010 – ECSE 211
- 3.) Fall 2010 – ECSE 211
- 4.) Winter 2011 – ECSE 211 and ECSE 428 – Software Engineering Practice
- 5.) Fall 2011 – ECSE 211
- 6.) Winter 2012 – ECSE 211 and ECSE 420 – Parallel Computing
- 7.) Fall 2012 – ECSE 211
- 8.) Winter 2013 – ECSE 489 – Telecommunication Network Laboratory
- 9.) Fall 2013 – ECSE 429 – Software Validation
- 10.) Winter 2015 – ECSE 489 – Telecommunication Network Laboratory
- 11.) Fall 2015 – ECSE 489 – Telecommunication Network Laboratory

**Computer Engineering Intern:** [State of Maine, OIT] [August, Maine] [Summer 2009]

Hired as an intern for the State of Maine's Office of Information Technology under the Unix, Enterprise Backup, and Storage teams.

## Technical Knowledge

### Productivity Software:

MS Office 2000-2016, OpenOffice.org Suite, MS Office 365

### Programming Languages and Other Technical Skills:

C; C++; C#/F#; Java (incl. Swing); OpenGL, VHDL, HTTP/HTML; PHP; SQL; Linux Operating System; Shell Scripting; Linux Server Management; IPTables (firewall); Apache 2.0 Configuration; FTP/VSFTP; Advanced Network Administration; LDAP; Blackboard Teaching Classroom; General Windows Desktop/Server Support; Distributed Environments

## Awards

1. Recipient of the NewPage Scholarship for Excellence in Engineering – September 2006
2. McGill Engineering International Tuition Award – May 2013 – May 2016
3. Recipient of the Margaret Furst Prize for outstanding teaching assistants in Electrical Engineering on the recommendation of the Dept. of Electrical Engineering Graduate Student's Society – July 2016

## Selected Publications

1. S. Lawlor. "Traffic Estimation and Detection Methods Utilizing Automatic Vehicle Identification Data". *McGill University*. PhD Thesis. 04/2017
2. S. Lawlor and M.G. Rabbat "Time-Varying Mixtures of Markov Chains: An Application to Road Traffic Modeling" *IEEE Transactions on Signal Processing*, 03/2017
3. S. Lawlor and M.G. Rabbat "Estimation of Time-Varying Mixture Models: An Application to Traffic Estimation" *2016 Workshop on Statistical Signal Processing (SSP)*, Palma de Mallorca, Spain, 06/2016
4. S. Lawlor, T. Sider, N. Eluru, M. Hatzopoulou, and M.G. Rabbat "Detecting Convoys Using License Plate Recognition Data" *Transactions on Signal and Information Processing over Networks* 08/2016

5. S. Lawlor and M.G. Rabbat “Detecting Convoys in Networks of Short-Range Sensors”, *2014 Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California, 11/2014
6. S. Lawlor “Detecting Convoys in Networks of Short-Range Sensors”, *Electrical and Computer Engineering*, Masters of Engineering Thesis, Montreal, Quebec, Canada, McGill University, 08/2013
7. S. Lawlor, P. Diez, and F.P. Ferrie “Real-Time Distributed Computing: ChoPS” *Canadian Conference on Electrical and Computer Engineering (CCECE)*, Montreal, Quebec, Canada, 05/2012

## **Interests**

FOSS Software; Distributed (Cluster) Computing; Anomaly Detection; Computer Networking; Machine Learning; Snowboarding; Golf; Traveling

## References

### **Professor Michael Rabbat**

Professor, McGill University, Department of Electrical and Computer Engineering  
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Montreal, QC, Canada H3A 2A7  
Tel: 514-398-1847  
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### **Professor Frank Ferrie**

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### **Pierre Racz**

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